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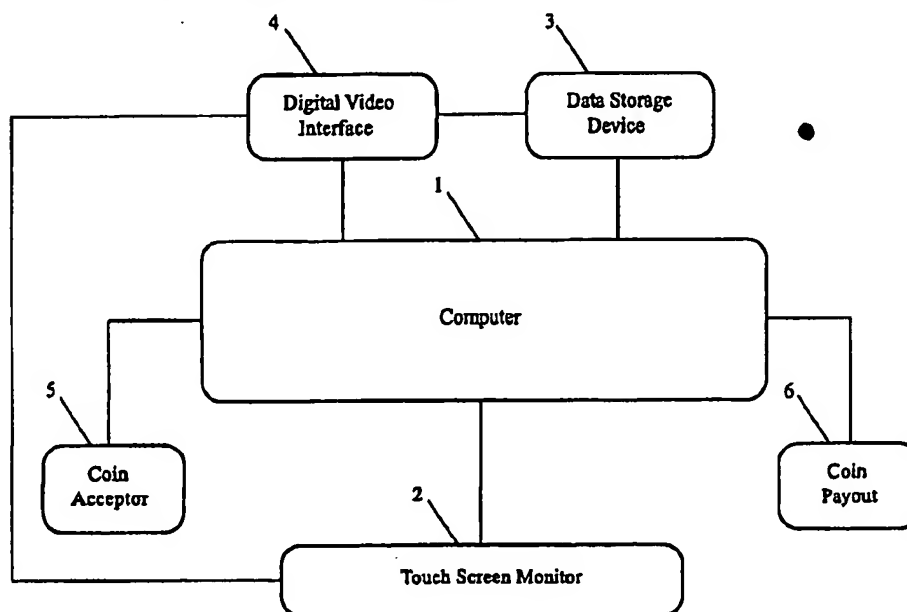
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(56) Documents Cited  
GB 2231189 A GB 2105560 A

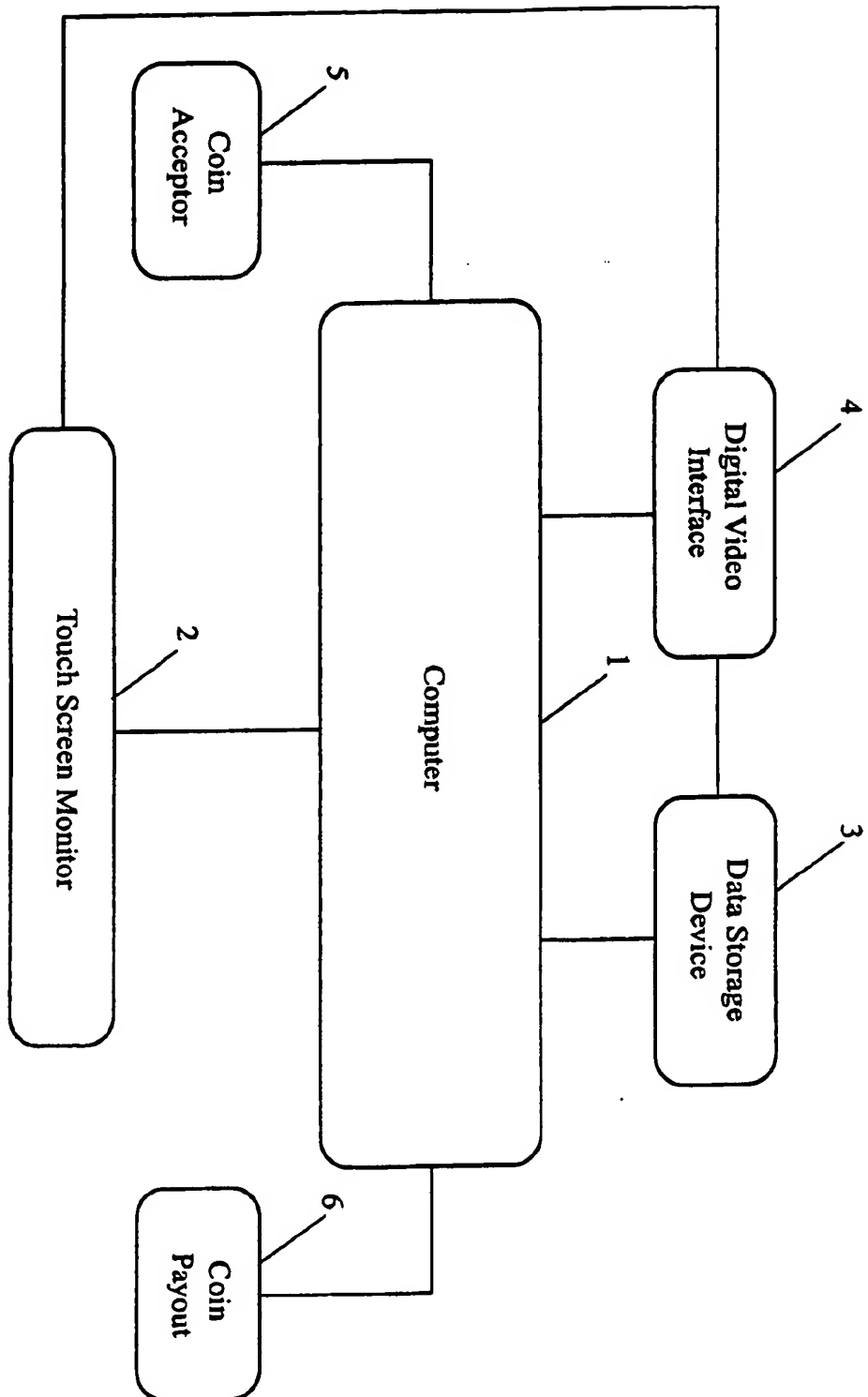
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(54) Apparatus for playing a spot-the-ball competition

(57) Apparatus for playing a spot-the-ball type competition, comprises means (2) for displaying a stored video sequence followed by a still image from said sequence edited to remove an element of the image. A user indicates a selected position on the display (2) which is compared in a computer (1) to a stored position representing the true position of the removed element in order to determine the outcome of the game. The apparatus may have a coin acceptor (5) and a pay-out unit (6) and in one embodiment uses stored video sequences of a ball game each followed by a still image in which the ball has been removed.



The claims were filed later than the filing date within the period prescribed by Rule 25(1) of the Patents Rules 1990.



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## APPARATUS FOR PLAYING A SPOT-THE-BALL COMPETITION

The present invention relates to apparatus for playing a spot-the-ball type of competition. In this specification the term spot-the-ball competition is used to cover a competition in which the entrant has to use his skill and judgement to determine the location of an object which has been removed from an image. The object which has been removed from the image may be a ball or other object. The image may be a scene from a football match, tennis match or other event. The image may be a photograph or a video image on a video monitor.

The apparatus may be a coin, token or credit-freed amusement or skill-with-prizes machine. An excerpt of film or video, for example showing a football match (although other suitable games or events may be used), may be displayed, having been randomly chosen from a plurality of such stored excerpts, wherein the ball in play will be visible to the player. After the football sequence ceases a static image, that represents an image that was visible at some point during the moving sequence, is displayed. This static image will have been previously edited to exclude the ball from the image.

The player then chooses, preferably through the use of a display device equipped with a touch-sensitive screen (or through the use of buttons joysticks or the like) at least one point or region where he believes or remembers the ball to have been. The machine then determines the coordinates, in relation to the displayed image, of the player's choice. The machine then determines whether the chosen point or points, region or regions is coincident with the predetermined point or region. The machine indicates to the player the accuracy or inaccuracy of the selection.

A timing device may be employed at the time of the player's selection to limit the amount of time a player has to view the static image. The machine may also have the means to control the play in accordance with the ability of a player to select accurately said points or regions, in order to maintain a predetermined ratio of income to pay-out.

When the player has chosen correctly the ball may appear, confirming the player's accuracy in his selection. A prize may be awarded according to the machine's award structure. The prize may be cash, credit points or the progression to another game or another portion of the same game involving the same or other skills, or the like.

In patent no. GB-A-2229371 a variation of the spot-the-ball game is described in which a video sequence is displayed to the player wherein a ball game or the like is shown with the ball removed. The video then freezes to display the final image of the sequence and the player is instructed to select an area or point on the still image where he guesses the ball to have been. The apparatus required for this game comprises among other components, one optical disc-player which plays a ball game without an image of a ball and another optical disc-player which sends out signals representing only the ball position, a video mixer and multiplexer to enable the display of such sequences described above.

In the present invention a moving sequence of a ball game, event or the like, is also displayed, however the ball is visible throughout this moving sequence. A still frame then appears without the ball. This frame is an exact copy of one of the multiple frames visible within the moving sequence, however it has been previously altered to remove the ball from the frame and stored onto the computer. Therefore when the player comes to choose the point or area where the ball is missing on the static frame he is using his memory of the moving sequence in order to make his choice, and not merely guessing at its possible position. The more closely the player examines and remembers the moving sequence displayed, the better able he will be to select the correct point or area of the missing ball.

The present invention, in its preferable embodiment, also uses a different means of player control. The monitor or display screen is equipped with a touch-sensitive screen which makes for simpler, more immediate interaction with the machine. The components and the method of utilising the components necessary to the present machine are also different and fewer in number than the invention described in patent GB-A-2229371.

In accordance with the present invention in one example, there is provided a coin, token or credit-freed machine comprising a display screen, the means to display images on the display screen, the means to display predetermined moving images wherein an element is visible on the display, the means to display a predetermined static image wherein said element is not visible, the means for a player to select a point or region on the display, the means to determine the player's selection, the means to determine the relationship between the selected point or region and the predetermined point or region of the absent element.

The present invention will now be described by way of example only with reference to the accompanying illustration which is a block diagram of the components and operable parts necessary to this particular embodiment of the present invention.

A machine of the example depicted comprises a computer 1 which is programmed to control all other components of the machine in ways dependent upon the nature of the components, and the nature of a particular game. A monitor 2 is provided, in this case with a touch-sensitive screen. This monitor receives signals, in order to display images,

from both the digital video interface 4 and the computer 1.

Also provided is the digital storage device 3 either a hard disk or CD-ROM or other recording media or combination thereof which stores the programme controlling the process of the game, the various components and the basis of all video or graphic images to be displayed on the monitor 2. This data storage device 3 may be removed and replaced with a new data storage device or altered in order to provide new sets of images when the need arises in accordance with the game. Previously excerpts of video film will have been digitally converted, compressed and written or recorded onto the digital storage device 3. The digital video interface 4 retrieves and decompresses the information stored on the data storage device 3 and enables the display of moving video images on the monitor 2.

In this embodiment the touch-screen monitor 2 allows the player to interact manually with the machine. When the player touches the screen a signal is sent to the computer 1 which then determines the coordinates of the region touched, and contains the means to compare this with predetermined regions, programmed on to the computer 1 and or contained within the data storage device 3.

The machine comprises a coin acceptor 5 which upon accepting a coin, token or credit signals the computer 1 to commence play.

In this embodiment, the machine comprises a coin pay out unit 6 in order to award a physical prize such as cash, tokens, vouchers or the like.

Initially when the game has not been freed by coin, token or credit a series of moving and still images may be displayed on the monitor 2 informing the player of the game contained and inviting him to play. These images are stored in the data storage device 3 then decompressed and played on the screen by the digital video interface 4 and the computer 1.

Once the game is enabled by a signal from the coin acceptor 5 play commences. The computer 1 directs the digital video interface 4 to retrieve, decompress and display digital information from the data storage device 3 onto the display screen 2. The excerpts are randomly selected from a plurality of images.

The player is then able to view, in this case a football match or the like where the ball is in play and visible to the player. The computer 1 then releases this video excerpt and retrieves a single static frame that has been previously recorded on the data storage device 3 and previously altered to eliminate the ball. This frame is one of the frames visible in the moving excerpts but stored altered and this is displayed on screen 2.

The player then must select the point or region where he believes or remembers the ball to have been. He makes his selection by touching the appropriate point or area on the

touch- screen with his finger. This sends a signal to the computer 1 which determines the coordinates of the area chosen and determines its coincidence or lack thereof with the predetermined position, in this case of the missing ball, verifies and indicates its determination, for instance if the position is correctly located, the ball becomes visible on the monitor 2. The player's results may then be compared by the computer 1 with a predetermined award structure, programmed on to the computer 1 or the data storage device 3.

Depending upon the embodiment of this invention, the player may be able to make one or several selections on one or several screens and may then progress to levels of the game possibly including other skill competitions or the like or progressing to another game within the machine.

Although not depicted, a game providing a prize of points, credits or the like may not require a pay out unit 6.

Where enhanced picture quality is required in a particular embodiment of the present invention a laser disc player may be utilised and a video overlay board to display the images played by the laser disc player. In this case the digital video interface is unnecessary and the storage media need only store the programme and static frames without the ball visible. The video overlay board is connected to the computer, laser disc player and monitor. The video overlay board enables the monitor to display all the colours necessary to show video sequences from the laser disc player. The laser disc player is controlled by the computer and predetermined excerpts of film are played. The disc, played on the laser disc player, can be changed as the need for further images arises.

In another example of this invention player control features may be employed in addition to or instead of the touch- sensitive screen, such as buttons , joysticks or the like.

Therefore it is to be understood that this invention can be embodied in a variety of ways other than specifically stated or depicted herein, without departing from the scope of the present invention.

CLAIMS

1. Apparatus for playing a spot-the-ball type competition, comprising means for displaying a stored video sequence followed by a still image from said sequence edited to remove an element of the image, means to enable a user to indicate a selected position on the display, and means for comparing the selected position with a stored position representing the true position of the removed element in order to determine the outcome of the competition.
2. Apparatus as claimed in claim 1, wherein the displaying means comprises a touch sensitive screen which also functions as the indicating means.
3. Apparatus as claimed in claim 1, wherein the indicating means comprises keys or a joystick.
4. Apparatus as claimed in any one of the preceding claims, comprising means for storing a plurality of different sequences and means for randomly selecting one of said sequences.
5. Apparatus as claimed in any one of the preceding claims, wherein the removed element is an image of a ball.
6. Apparatus as claimed in any one of the preceding claims, wherein the displaying means comprises a data storage device in which the or each video sequence is stored in compressed format and means for decompressing the stored image before display.
7. Apparatus as claimed in any one of the preceding claims, further comprising timing means for restricting the time of display of the still image.
8. Apparatus as claimed in any one of the preceding claims,

which is coin, token or credit freed.

9. Apparatus as claimed in claim 8, further comprising a pay out unit for delivering a coin or token pay out in response to the result of the comparison.
10. Apparatus as claimed in claim 9, further comprising means for controlling the comparing means in order to maintain a predetermined ratio of income to pay-out.
11. Apparatus for playing a game substantially as herein described with reference to the accompanying drawings.



Amendments to the claims have been filed as follows

1. Apparatus for playing a spot-the-ball type competition, comprising touch-sensitive means for displaying a stored video sequence followed by a still image from said sequence edited to remove an element of the image, means to enable a user to indicate a selected position on the display, and means for comparing the selected position with a stored position representing the true position of the removed element in order to determine the outcome of the competition. 5 10
2. Apparatus as claimed in any one of the preceding claims, comprising means for storing a plurality of different sequences and means for randomly selecting one of said sequences. 15
3. Apparatus as claimed in any one of the preceding claims, wherein the removed element is an image of a ball. 20
4. Apparatus as claimed in any one of the preceding claims, wherein the displaying means comprises a data storage device in which the or each video sequence is stored in compressed format and means for decompressing the stored image before display. 25
5. Apparatus as claimed in any one of the preceding claims, further comprising timing means for restricting the time of display of the still image. 30
6. Apparatus as claimed in any one of the preceding claims, which is coin, token or credit freed.
7. Apparatus as claimed in claim 5, further comprising a pay out unit for delivering a coin or token pay out in response to the result of the comparison. 35

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8. Apparatus as claimed in claim 7, further comprising means for controlling the comparing means in order to maintain a predetermined ratio of income to pay-out.
9. Apparatus for playing a game substantially as herein 5 described with reference to the accompanying drawings.

**Relevant Technical Fields**

- (i) UK Cl (Ed.M) A6H (H17), H4T (TBAG)  
 (ii) Int Cl (Ed.5) A63F, G06F

Search Examiner  
 R F KING

Date of completion of Search  
 18 NOVEMBER 1993

**Databases (see below)**

(i) UK Patent Office collections of GB, EP, WO and US patent specifications.

(ii) WPI

Documents considered relevant following a search in respect of Claims :-  
 1 TO 11

**Categories of documents**

- X: Document indicating lack of novelty or of inventive step. P: Document published on or after the declared priority date but before the filing date of the present application.  
 Y: Document indicating lack of inventive step if combined with one or more other documents of the same category. E: Patent document published on or after, but with priority date earlier than, the filing date of the present application.  
 A: Document indicating technological background and/or state of the art. &: Member of the same patent family; corresponding document.

Category	Identity of document and relevant passages		Relevant to claim(s)
X	GB 2231189 A	(CORK AMUSEMENT) see Claim 7 and page 9, last paragraph	2, 7
X	GB 2105560 A	(TREND ELECTRONICS) see whole document, especially line 110, page 1	1, 3, 4, 5, 8, 9

Databases: The UK Patent Office database comprises classified collections of GB, EP, WO and US patent specifications as outlined periodically in the Official Journal (Patents). The on-line databases considered for search are also listed periodically in the Official Journal (Patents).